

ABSTRACT OF THE DISCLOSURE

According to the present invention, purified, isolated and cloned nucleic acid polynucleotide encoding hypoxia-regulating genes and the proteins thereof and antibodies directed against the proteins which have sequences as set forth in SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5 and SEQ ID NO:6 are provided. The present invention further provides transgenic animals and cell lines as well as knock-out organisms of these sequences. The present invention further provides methods of regulating angiogenesis or apoptosis or regulating response to ischemic or hypoxic conditions in a patient in need of such treatment. The present invention also provides a method of diagnosing the presence of ischemia in a patient including the steps of analyzing a bodily fluid or tissue sample from the patient for the presence, or gene product, of at least one expressed gene (up-regulated) as set forth in the group comprising SEQ ID NO:2; SEQ ID NO:3; SEQ ID NO:4; SEQ ID NO:5; and SEQ ID NO:6 and where ischemia is determined if the up-regulated gene or gene product is ascertained.